



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,204	11/21/2001	Ken Kuwabara	JNP-0126	3547
26615	7590	09/07/2006	EXAMINER	
HARRITY SNYDER, LLP 11350 Random Hills Road SUITE 600 FAIRFAX, VA 22030			LEE, ANDREW CHUNG CHEUNG	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

A

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/990,204	KUWABARA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Andrew C. Lee	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,10-12 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,10,11,12,17,18,19,20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claim 1, 4, 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Aggarwal et al. (US 6330614 B1).

Regarding claim 1, Aggarwal et al. disclose the limitation of in a router containing a plurality of forwarding tables (column 4, lines 60 – 65, routing table and forwarding table), a method of packet forwarding, comprising: receiving a packet at an ingress interface (column 4, lines 66 – 67, interpreted “router gets a datagram from a directly connected interface” as receiving a packet at an ingress interface); classifying the received packet based on at least a first field value contained in the header of the packet (column 5, line 1, interpreted “examining the destination network address in the header” as received packet based on at least a first field value (destination network address), the classifying comprising; determining whether the first field value meets one

or more criteria (column 6, lines 50 – 55, interpreted “ verifying the integrity of the incoming datagram header” as first field value meets one or more criteria), and assigning a default classification if none of the criteria are met (column 6, lines 13 – 17, interpreted “ hop count and destination network address” as a default classification); associating one of the plurality of forwarding tables to the packet according to its classification (column 5, lines 55 – 62, interpreted “the destination network address and egress interface number form an entry into the forwarding table as associating one of the plurality of forwarding tables); performing a lookup operation in the associated forwarding table according to at least a second field value contained in the header of the packet (column 5, lines 5 – 8, lines 57 – 62 , interpreted “calculates the egress interface number” as associated forwarding table according to at least a second field value); determining an egress interface based on the lookup operation (column 5, lines 57 – 62, interpreted “calculates the egress interface number” as determining an egress interface based on the lookup operation); and transmitting the received packet from the determined egress interface (column 6, lines 11 – 19, interpreted “ choosing the interface to port 1 (determined egress interface) for forwarding of all datagrams destined for network address ‘a’).

Regarding claim 4, Aggarwal et al. disclose the limitation of the method of claim 1, wherein a first forwarding table contains an entry corresponding to a first label switched path (column 8, Table 2, entry 1 element a Label assigned L1).

Regarding claim 5, Aggarwal et al. disclose the limitation of the method of claim 4, wherein the first forwarding table contains an entry corresponding to a second label switched path (column 8, Table 2, entry 3 element C Label assigned L2).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10, 11, 12, 17, 18, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aggarwal et al. (US 6330614 B1) in view of Miki et al. (US 6771662 B1).

Regarding claim 10, Aggarwal et al. disclose the limitation of a method of configuring a networking device (recited "router" as networking device; column 4, lines 34 – 37), comprising: generating a first forwarding table (recited "each router creates another database, called a forwarding table; column 4, lines 59 – 64); Aggarwal et al. do not disclose explicitly generating a second forwarding table; programming a filter to perform a lookup operation in the first forwarding table if a first field value of a received packet meets one or more conditions of a first set of conditions; programming the filter to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions. Miki et al. disclose the limitation of generating a second forwarding table (recited "a table for MPLS edge-

egress forwarding” as generating a second forwarding table; column 8, line 63); programming a filter to perform a lookup operation in the first forwarding table if a first field value of a received packet meets one or more conditions of a first set of conditions (recited “the table entry hit by the search conditions of the first stage, the forwarding type indicates the MPLS core forwarding” as programming a filter to perform a lookup operation in the first forwarding table if a first field value of a received packet meets one or more conditions of a first set of conditions; column 13, lines 17 – 25); programming the filter to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions (recited “when the search at the first stage fails, the destination IP address is used, an the table entry hit by the search of the second stage, the forwarding type indicates one of the MPLS edge-ingress forwarding, MPLS edge-egress forwarding, and IP forwarding” as programming the filter to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions; column 13, lines 26 – 36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aggarwal et al. to include generating a second forwarding table; programming a filter to perform a lookup operation in the first forwarding table if a first field value of a received packet meets one or more conditions of a first set of conditions; programming the filter to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions such as that taught by Miki et al. in order to provide a label switching type packet forwarding apparatus which can be adapted to a

plurality of kinds of communication protocols (as suggested by Miki et al., see column 5, lines 65 – 67).

Regarding claim 11, Aggarwal et al. disclose the limitation of the method of claimed wherein the step of generating a first forwarding table comprises the substep of generating a first forwarding table containing an entry corresponding to a first label switched path (recited “Forwarding table containing an additional entry representing Label Number assigned to the Destination Network Address” as generating a first forwarding table containing an entry corresponding to a first label switched path; column 8, lines 24 – 30, Table 2).

Regarding claim 12, Aggarwal et al. disclose the limitation of the method of claimed wherein the step of generating a first forwarding table comprises the substep of generating a first forwarding table containing an entry corresponding to a first label switched path (recited “Forwarding table containing an additional entry representing Label Number assigned to the Destination Network Address” as generating a first forwarding table containing an entry corresponding to a first label switched path; column 8, lines 24 – 30, Table 2). Aggarwal et al. do not disclose explicitly the method of claimed wherein the step of generating a second forwarding table comprises the substep of generating a second forwarding table. Miki et al. disclose the limitation of the method of claimed wherein the step of generating a second forwarding table comprises the substep of generating a second forwarding table (recited “a table for MPLS edge-egress forwarding” as generating a second forwarding table comprises the substep of



generating a second forwarding table; column 8, lines 62 – 67, column 13, lines 33 – 36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aggarwal et al. to include the method of claimed wherein the step of generating a second forwarding table comprises the substep of generating a second forwarding table such as that taught by Miki et al. in order to provide a label switching type packet forwarding apparatus which can be adapted to a plurality of kinds of communication protocols (as suggested by Miki et al., see column 5, lines 65 – 67).

Regarding claim 17, Aggarwal et al. disclose the limitation of a networking device (recited “router” as networking device; column 4, lines 34 – 37) comprising: a memory for storing a first forwarding table and a second forwarding table (recited “a routing information memory in which the routing information table is stored; column 12, lines 62 – 65); Aggarwal et al. do not disclose explicitly a filter programmed to initiate a lookup operation in the first forwarding table if a first field value of a header contained in a received packet meets a first set of conditions and to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions. Aggarwal et al. do not disclose explicitly a filter programmed to initiate a lookup operation in the first forwarding table if a first field value of a header contained in a received packet meets a first set of conditions ((recited “the table entry hit by the search conditions of the first stage, the forwarding type indicates the MPLS core forwarding” as programming a filter to perform a lookup operation in the first forwarding table if a first field value of a received packet meets one or more conditions of a first set of conditions; column 13, lines 17 – 25) and to initiate a



Art Unit: 2616

lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions (recited “when the search at the first stage fails, the destination IP address is used, and the table entry hit by the search of the second stage, the forwarding type indicates one of the MPLS edge-ingress forwarding, MPLS edge-egress forwarding, and IP forwarding” as programming the filter to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions; column 13, lines 26 – 36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aggarwal et al. to include a filter programmed to initiate a lookup operation in the first forwarding table if a first field value of a header contained in a received packet meets a first set of conditions and to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions such as that taught by Miki et al. in order to provide a label switching type packet forwarding apparatus which can be adapted to a plurality of kinds of communication protocols (as suggested by Miki et al., see column 5, lines 65 – 67).

Regarding claim 18, Aggarwal et al. disclose the limitation of the networking device of claimed wherein the first forwarding table contains an entry corresponding to a first label switched path (recited “Forwarding table containing an additional entry representing Label Number assigned to the Destination Network Address” as

generating a first forwarding table containing an entry corresponding to a first label switched path; column 8, lines 24 – 30, Table 2).

Regarding claim 19, Aggarwal et al. disclose the limitation of the networking device of claimed wherein the first forwarding table contains an entry corresponding to a first label switched path (recited “Forwarding table containing an additional entry representing Label Number assigned to the Destination Network Address” as generating a first forwarding table containing an entry corresponding to a first label switched path; column 8, lines 24 – 30, Table 2). Aggarwal et al. do not disclose explicitly the networking device of claimed wherein the second forwarding table contains an entry corresponding to a second label switched path. Miki et al. disclose the limitation of the networking device of claimed wherein the second forwarding table contains an entry corresponding to a second label switched path (recited “a table for MPLS edge-egress forwarding” as the second forwarding table contains an entry corresponding to a second label switched path (elements Label L43, Label L44); column 8, lines 62 – 67, column 13, lines 33 – 36, Fig. 18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aggarwal et al. to include the networking device of claimed wherein the second forwarding table contains an entry corresponding to a second label switched path such as that taught by Miki et al. in order to provide a label switching type packet forwarding apparatus which can be adapted to a plurality of kinds of communication protocols (as suggested by Miki et al., see column 5, lines 65 – 67).

Regarding claim 20, Aggarwal et al. disclose the limitation of a networking device (recited "router" as networking device; column 4, lines 34 – 37) of claimed further comprising: a plurality of ingress interfaces for receiving packets (recited "all ingress ports" as a plurality of ingress interfaces for receiving packets; Fig. 4, elements forwarding table and header processing unit 1,2,3,4; column 5, lines 54 – 57); a plurality of egress interfaces for transmitting packets (recited "determine the corresponding appropriate output or egress interface port" as a plurality of egress interfaces for transmitting packets; Fig. 4, elements output ports 1,2,3,4; column 11, lines 37 – 37, 48 – 58), wherein each of the lookup operations results in an identification of an egress interface from which the received packet is to be transmitted (column 6, lines 42 – 48).

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ACL

Aug 20, 2006

  
RICKY Q. NGO  
SUPERVISORY PATENT EXAMINER